

STATE OF CALIFORNIA  
Budget Change Proposal - Cover Sheet  
DF-46 (REV 08/15)

Fiscal Year 2016-17	Business Unit 3900	Department Air Resources Board	Priority No. 3
Budget Request Name 3900-L03-BCP-BR-2016-GB		Program <b>3510 - CLIMATE CHANGE</b>	Subprogram N/A

Budget Request Description  
Low Carbon Transportation Fuels (AB 692)

Budget Request Summary

The Air Resources Board requests \$145,000 annually from the Cost of Implementation Account for 1.0 permanent full-time Air Resources Engineer position to provide consultation and analytical support to the Department of General Services and other State agencies for implementation of AB 692 ( Chapter 588, Statutes of 2015). The additional staff person would assist the Department of General Services in substantiating the availability and prices of very low carbon fuels, provide advice on purchasing decisions based on manufacturer capacity and logistics, verify the carbon intensity claims for fuels offered to the Department of General Services and other State agencies, and provide analytical support to the Low Carbon Fuel Standard program needed to address the expected increased demand for approval of pathway carbon intensity values for very low carbon fuels, including new and emerging fuels, to meet the requirements of AB 692.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date

For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

☐ FSR ☐ SPR Project No. Date:

If proposal affects another department, does other department concur with proposal? ☐ Yes ☐ No  
*Attach comments of affected department, signed and dated by the department director or designee.*

Prepared By Jim Duffy	Date 1-6-2016	Reviewed By Alice Stebbins	Date 1-6-16
Department Director Richard W. Corey	Date 1/6/2016	Agency Secretary Matthew Rodriguez	Date 1/6/16

Department of Finance Use Only

Additional Review: ☐ Capital Outlay ☐ ITCU ☐ FSCU ☐ OSAE ☐ CALSTARS ☐ Dept. of Technology

BCP Type: ☐ Policy ☐ Workload Budget per Government Code 13308.05

PPBA Original Signed By: Ellen Moratti	Date submitted to the Legislature
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## A. Budget Request Summary

The Air Resources Board (ARB) requests \$145,000 annually from the Cost of Implementation (COI) Account for 1.0 permanent full-time Air Resources Engineer (ARE) position to provide consultation and analytical support to the Department of General Services (DGS) and other State agencies for implementation of Assembly Bill (AB) 692.

AB 692 requires, commencing January 1, 2017, at least 3 percent of the aggregate amount of bulk transportation fuel purchased by the State government to be procured from very low carbon transportation fuel sources. This percentage increases by 1 percent each year thereafter until January 1, 2024. The bill defines a "very low carbon transportation fuel" as a liquid or gaseous transportation fuel having no greater than 40 percent of the carbon intensity (CI) of the closest comparable petroleum fuel for that year, as measured by the methodology in the Low Carbon Fuel Standard (LCFS) regulation. The bill requires DGS to coordinate with State agencies that are buyers of transportation fuel and submit an annual progress report to the Legislature. Moreover, if the Department of General Services, in consultation with the chairperson of the ARB, makes a determination that very low carbon transportation fuel does not perform adequately for its intended use or is not available at a reasonable price and in a reasonable period of time, the State shall procure very low carbon transportation fuel only to the extent feasible.

ARB, through the LCFS regulation, is responsible for evaluating and calculating fuel CI values for all transportation fuels sold in the California marketplace. Although AB 692 does not specifically call for ARB to provide assistance to State agencies on fuel procurement, ARB expects it will be a de facto requirement because of ARB's unique expertise with the LCFS regulation and because of AB 692's explicit fuel CI requirement. CI is the key metric and requirement in the LCFS, and to our knowledge, no other State agency implements a regulation based on CI without directly referencing the LCFS regulation. Complying with the bill's fuel requirements will necessarily involve complex CI calculations and detailed knowledge of the California alternative fuels market. ARB is uniquely qualified to provide this assistance by virtue of its knowledge of compliant fuel choices, as well as knowledge of fuel manufacturers' and providers' current and proposed product plans.

## B. Background/History

A number of policy directives authorizes and supports the LCFS Program (e.g., Executive Order S-01-07, AB 32 (Chapter 488, Statutes of 2006)). The LCFS is a key part of a comprehensive set of programs in California to reduce greenhouse gas (GHG) emissions from the transportation sector. Transportation accounts for 40 percent of the GHG emissions in California. The LCFS regulation requires at least a 10 percent reduction in CI by 2020 from a 2010 baseline.

The LCFS establishes a credit market in which fuel transactions generate credits and deficits. Credits are generated when a volume of fuel reported into the LCFS Reporting Tool has a CI below the standard for a compliance year, while deficits are generated when the fuel CI reported is higher than the standard. The LCFS does not prescribe fuels sold on the California market but rather establishes performance standards based on carbon intensities for fuels. Regulated parties who generate deficits can utilize a mix of strategies to achieve compliance, including: 1) investing in low-CI fuels to self-generate credits; 2) purchasing low-CI fuels for blending with traditional hydrocarbon fuels; 3) purchasing credits from other regulated parties; and/or 4) banking credits for use in future years. Each year the CI standard for compliance is decreased, thereby making the program more stringent. The declining compliance standard means that the pool of low carbon fuels must increasingly become lower in CI over time.

In order to receive a CI value for their fuel and be recognized as a low carbon fuel under the LCFS, fuel providers submit to ARB a detailed application including a complete well-to-wheels lifecycle assessment of the emissions intensity of the fuel and operational data supporting that assessment. Similar fuels within a given category may have substantially different CI values depending upon the source of feedstock for the fuel, the type and amount of energy used to process the fuel, the transportation distance to California, and the use of innovative methods to reduce carbon emissions.

## Analysis of Problem

ARB staff must then review each of these applications, verify the data provided by the producer, and determine an appropriate CI value. To date, ARB staff has evaluated over 300 fuel pathway applications with unique CI scores. Moreover, as the LCFS drives the need for lower CI fuels, new technologies are being developed and innovation is occurring at existing facilities, all of which require ARB to continue to evaluate more pathway applications each year.

In addition to calculating CI scores, ARB maintains the LCFS Reporting Tool, which is an accounting system for reporting fuel volumes and CI values and for monitoring compliance with the regulation. Moreover, ARB staff has regular discussions with oil companies, low carbon fuel providers, fuel transporters, and storage companies on current and proposed plans for fuel production and distribution.

AB 692 requires, commencing January 1, 2017, at least 3 percent of the aggregate amount of bulk transportation fuel purchased by the State government to be procured from very low carbon transportation fuel sources. This percentage increases by 1 percent each year thereafter until January 1, 2024. The bill defines a "very low carbon transportation fuel" as a liquid or gaseous transportation fuel having no greater than 40 percent of the CI of the closest comparable petroleum fuel for that year, as measured by the methodology in the LCFS regulation. The bill requires DGS to coordinate with State agencies that are buyers of transportation fuel and submit an annual progress report to the Legislature on actions taken pursuant to the law.

AB 692 will increase demand for low carbon fuels in the State and accelerate the penetration of these fuels. ARB will need the requested resources to provide the necessary analyses and support because of the expected consultation with DGS and other purchasing agencies, and the expected increase in fuel market activity and commercialization.

The workload history table below lists the number of measures that help quantify the work done within the LCFS program currently. This table demonstrates the substantial growth since program inception. At this point, fuel pathways developed/reviewed has leveled off at about 40-50 year after the initial start-up. Low CI pathways are a modest subset of that total currently. These workload measures are expected to increase due to increased program stringency and policies that support increased use of low carbon fuels, such as AB 692.

**Workload History at up to Current (1 Percent CI Reduction) Requirement**

Workload Measures	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Active Reporting Parties	0	75	93	117	155	171
Annual and Quarterly Reports Reviewed	0	375	465	585	775	853
Fuel Pathways Developed/Reviewed*	45	169	185	245	295	339
Biofuel Facilities Registered*	0	175	223	272	301	331

\* Cumulative numbers shown.

### C. State Level Considerations

The LCFS continues to be a high priority for California. The Climate Change Scoping Plan, which serves as the State's strategic plan for implementing the AB 32 program, projects the transportation sector to increasingly include the use of low carbon fuels. The LCFS is expected to support the development of a diversity of cleaner fuels with other attendant co-benefits. Promoting innovation may yield even greater future benefits in terms of GHG emissions, air quality, and diversity of fuels, all of which is expected to support a resilient economy.

Although market-based programs, such as the LCFS, provide needed flexibility to ensure costs to consumers are minimized, they often need an external requirement that provides some market pull to



help jumpstart the process. This external market pull is especially relevant for the “very low carbon” fuels market, which is still in its infancy. AB 692, through the requirement for State agencies to purchase increasing volumes of very low carbon fuels, places the State in a leadership role by helping pull these fuels into the market.

The additional position requested by ARB would provide significant consulting support for substantiating the availability and prices of very low carbon fuels, advising agencies on fuel purchasing decisions, and analytical support to verify the CI of fuels offered to DGS and other State agencies.

#### **D. Justification**

The consulting services that ARB will need to provide in support of the requirements of AB 692 cannot be met by existing ARB staff without adversely impacting the timely administration of the LCFS program. To provide consulting services in support of AB 692 and fuel pathway approval support for the LCFS, ARB proposes one additional ARE position to assist in the following tasks:

1. Develop and maintain knowledge on market dynamics affecting the availability and price of very low carbon fuels and provide consultation to DGS as necessary. AB 692 includes an out-clause stating that if the Department of General Services, in consultation with the chairperson of the State board, makes a determination that very low carbon transportation fuel does not perform adequately for its intended use or is not available at a reasonable price and in a reasonable period of time, the State shall procure very low carbon transportation fuel only to the extent feasible. A large number of factors affect the availability and price of very low carbon fuels to California in any given year. These factors include competition with fuels programs in other jurisdictions, both nationally and internationally, changing feedstock and transportation costs, international monetary exchange rates, and competition between various energy sectors (e.g. transportation, electricity, heating) for alternative fuel feedstocks. Assessing these factors for the multitude of very low carbon fuel options cannot be done quickly but requires the State to develop and continually maintain knowledge of these market dynamics over time. Through its experience with the LCFS, ARB is uniquely positioned to understand these dynamics and provide support to DGS and other State agencies.
2. As de facto required by AB 692, provide support for DGS and other State agencies in identifying sources of low carbon transportation fuels that can be used to meet the requirements of AB 692 and verifying the CI claims for fuels offered to DGS and other State agencies. This task will require substantial coordination with State agencies to understand their fuel distribution needs and how these needs line up with the available supplies of very low carbon fuels to California. As discussed previously, the dynamic nature of the fuels market and especially the nascent low carbon alternative fuels market will likely require periodic consultation with State agencies over the course of AB 692.
3. Provide analytical support to the LCFS for increased demand for approval of pathway CI values for very low carbon fuels that can be used to meet the requirements of AB 692. AB 692 sets a new benchmark that manufacturers will now strive to meet to be included in the State purchase requirement. To serve this new demand for very low carbon fuels, manufacturers will take actions to produce new fuels that meet the new benchmark, or lower the CI of existing fuels, which must be evaluated by the ARB. In addition, as the stringency of both the LCFS and AB 692 increases and the alternative fuel market matures, it is expected that the types and production methods for very low carbon fuels will change over time, thereby requiring continual ARB staff time devoted to updating CI scores.

#### **E. Outcomes and Accountability**

The additional staff would support State agencies in identifying low carbon fuels that can be procured to meet the requirements of AB 692 and provide analytical support to the LCFS for approval of pathway CI

## Analysis of Problem

values for these low carbon fuels. Additionally, the additional staff would assist DGS in making a determination that very low carbon transportation fuel performs adequately for its intended use and is available at a reasonable price and in a reasonable period of time.

### Projected Outcomes

Workload Measure	Current	Projected
	FY 2015-16	FY 2016-17 & Beyond
Develop and maintain knowledge on market dynamics affecting the availability and price of very low carbon fuels and provide consultation services to DGS, as necessary. This task includes assessing: <ul style="list-style-type: none"> <li>competition with fuels programs in other jurisdictions, both nationally and internationally,</li> <li>changing feedstock and transportation costs, and</li> <li>competition between various energy sectors (e.g. transportation, electricity, heating) for alternative fuel feedstocks.</li> </ul>	Only moderate effort is currently spent on assessing the day-to-day changes in market factors that affect the availability and price for each of the very low carbon fuels supplied to the California market.	Maintain knowledge of the market factors affecting fuel availability and price of low CI fuels meeting the required 40 percent threshold for State agencies. Staff estimates that this task will require 900 hours annual staff time.
Assist State agencies in identifying sources of very low carbon fuel and verifying CI claims for fuels. This task will require substantial coordination with State agencies to understand their fuel distribution needs and how these needs line up with the available supplies of very low carbon fuels in California.	No effort is currently spent on this task.	State agencies able to obtain sufficient low carbon fuel to meet AB 692 requirements. Staff estimates that this task will require 420 hours of annual staff time.
Provide analytical support to the LCFS for approval of pathway CI values for very low carbon fuels that can be used to meet the requirements of AB 692. Staff expects an increase in pathway applications for very low carbon fuels in response to AB 692	Significant staff time to approving pathway CI values, which include some very low carbon fuel pathways.	Expect significant increase in pathway certification for very low carbon fuels meeting the requirements of AB 692. Staff expects that this task will require an additional 480 hours of annual staff time.

## F. Analysis of All Feasible Alternatives

Alternative 1 - Recommended alternative: 1.0 new staff position; \$145,000 annually:

This alternative would allow ARB to provide low carbon fuels expertise in support of AB 692 without delaying or disrupting implementation of current air quality programs. Additionally, a dedicated ARB staff person will greatly ease implementation of AB 692 by DGS and other State agencies.

Alternative 2 - Redirect other ARB resources to accomplish the necessary tasks:

Because ARB resources are fully committed toward implementing the LCFS program and other Board priority programs and policies at current resource demands, this alternative will delay action on other ARB and Administration priorities, including programs required under federal and State laws. Additionally, no additional funding will make it difficult to provide prompt advice to State agencies on available sources of very low carbon fuel and CI values for these fuels.

Alternative 3 – Add one or more new staff positions to DGS:

This alternative could allow DGS to directly provide low carbon fuels expertise to other State agencies in support of AB 692 without involving ARB. However, as noted in Alternative 1, ARB developed this expertise over a nearly decade-long process, so replicating this level of expertise at DGS or another

agency is administratively inefficient, ignores expertise already existing at ARB, and will likely require significantly more than one new staff. This is because the evaluation of CI, fuel market trends and developments, fuel production feasibility, and other aspects of low carbon fuel commercialization requires a multi-disciplinary approach. Expertise in the fuels market for very low carbon fuels and related CI evaluations and calculations are well outside of DGS' traditional duties and fields of expertise.

### Alternative 4 - No action:

This alternative would not allow ARB to provide the low carbon fuels expertise in support of AB 692. DGS and other State agencies would need to develop a level of expertise in low carbon fuels that ARB has developed over nearly a decade (since 2006). Without that level of expertise, we expect DGS and other State agencies would have a number of challenges and difficulties in implementing AB 692, thereby potentially delaying or disrupting implementation of the law. State agencies will have challenges getting current and reliable information on available sources of very low carbon fuel and CI values for these fuels. New or reformulated fuels will be delayed in getting new CI scores.

## **G. Implementation Plan**

It is important to have staff hired and trained as soon as possible to aid with implementation of AB 692 requirements. Approving the position by July 1, 2016 is necessary to give ARB time to post, interview, hire, and have the new staff trained to assist DGS and other State agencies in advance of the requirement for State agencies to begin purchase of very low carbon fuels on January 1, 2017.

## **H. Supplemental Information**

Not applicable

## **I. Recommendation**

ARB recommends approving the request for \$145,000 annually from the COI Account for 1.0 full-time ARE position to provide consultation and analytical support to DGS and other State agencies for implementation of AB 692 as well as meet the additional demand for pathway certification.

Not providing funds for an additional position risks delaying or disrupting the implementation of AB 692 or air quality programs implemented by ARB.

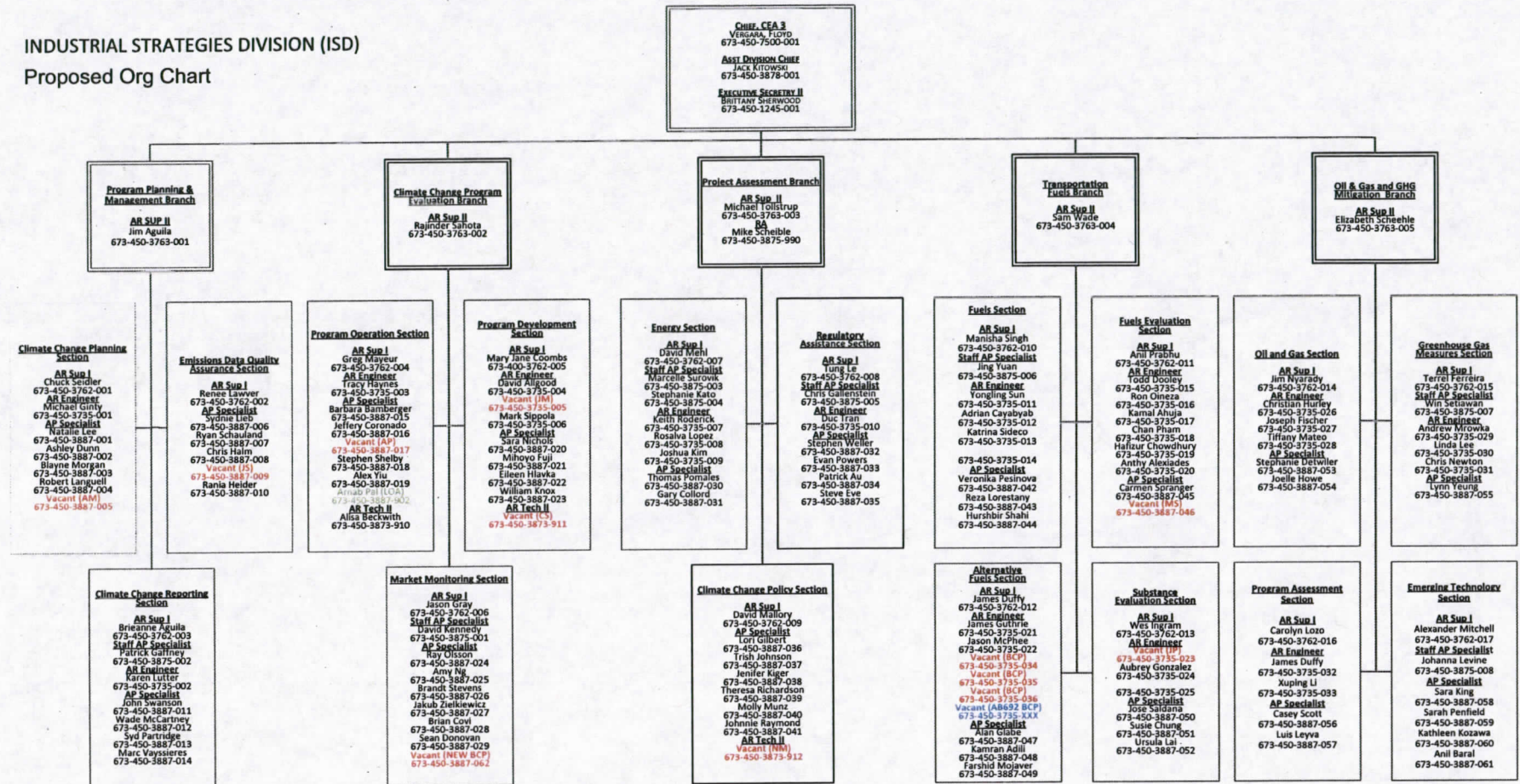
Air Resources Board				Attachment A Workload Justification		
Fund: Cost of Implementation (COI) Account						
Position Title: Air Resources Engineer (Support for AB 692)						
Workload Measure	FY 2016-2017			FY 2017-18		
Description of task	Number of Times the task was performed	Number of hours needed to complete task	Total number of annual hours	Number of times the task was performed	Number of hours needed to complete task	Total number of annual hours
Develop and maintain knowledge on market dynamics affecting the availability and price of very low carbon fuels and provide consultation to DGS as necessary.	Ongoing	900	900	Ongoing	900	900
Assist state agencies in identifying sources of low-carbon fuel and verifying CI claims for fuels.	Ongoing	420	420	Ongoing	420	420
Provide analytical support to the LCFS for approval of pathway CI values for very low carbon fuels that can be used to meet the requirements of AB 692	6 pathways	80 hrs/pathway	480	6 pathways	80 hrs/pathway	480
Total Hours			1,800			1,800

1.0 Position Equivalent = 1,800 hours

Numbers are based on previous workload experience

# INDUSTRIAL STRATEGIES DIVISION (ISD)

## Proposed Org Chart



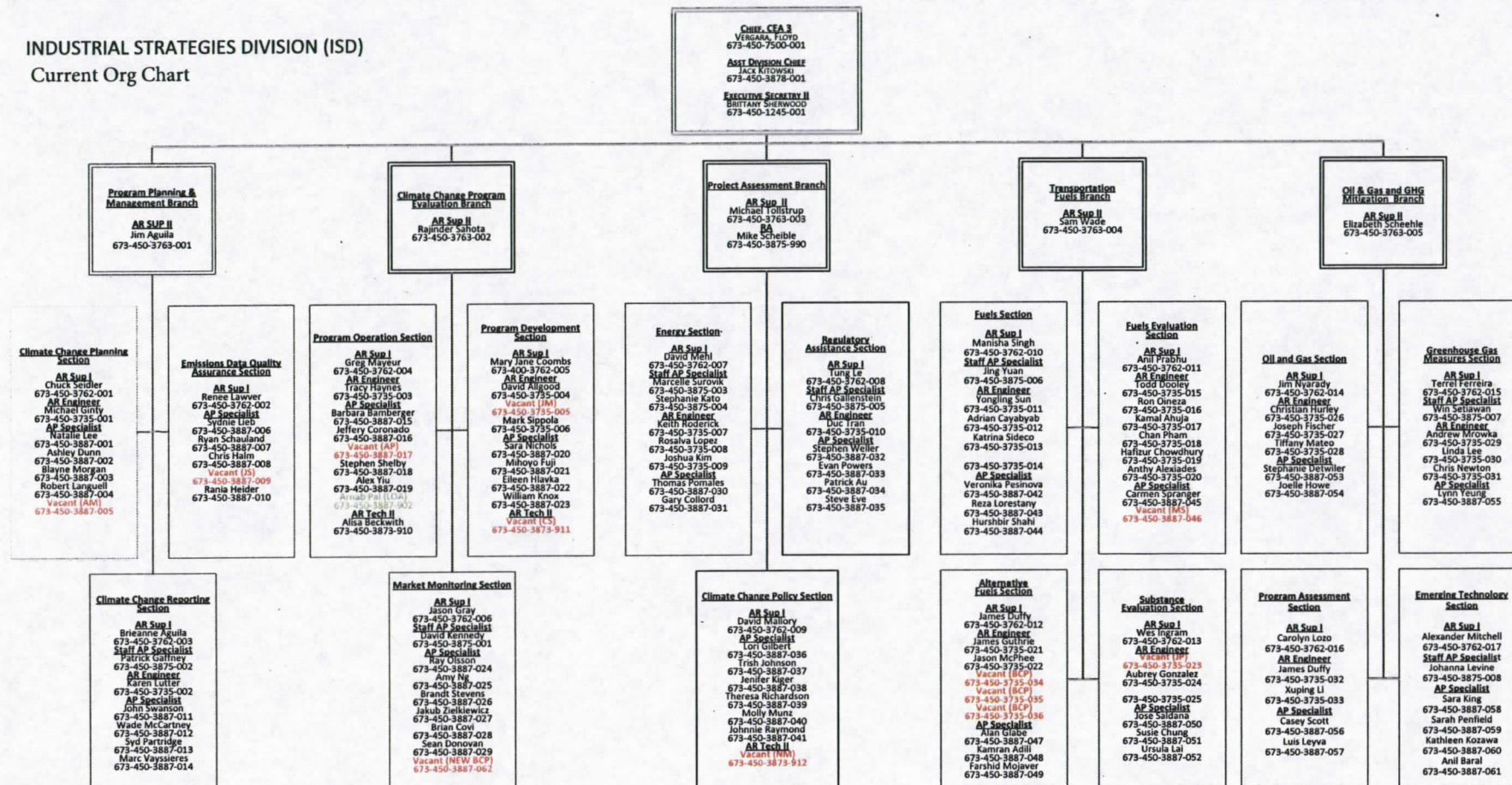
The Administrative Analysis Unit in TTD will provide administrative and clerical support to both TTD and ISD.

Updated 9/22/15



# INDUSTRIAL STRATEGIES DIVISION (ISD)

## Current Org Chart



The Administrative Analysis Unit in TTD will provide administrative and clerical support to both TTD and ISD.

Updated 9/22/15

## BCP Fiscal Detail Sheet

BCP Title: Low-carbon Transportation Fuels (AB 692)

DP Name: 3900-016-BCP-DP-2016-GB

### Budget Request Summary

	FY16					
	CY	BY	BY+1	BY+2	BY+3	BY+4
Positions - Permanent	0.0	1.0	1.0	1.0	1.0	1.0
<b>Total Positions</b>	<b>0.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>	<b>1.0</b>
Salaries and Wages						
Earnings - Permanent	0	83	83	83	83	83
<b>Total Salaries and Wages</b>	<b>\$0</b>	<b>\$83</b>	<b>\$83</b>	<b>\$83</b>	<b>\$83</b>	<b>\$83</b>
Total Staff Benefits	0	38	38	38	38	38
<b>Total Personal Services</b>	<b>\$0</b>	<b>\$121</b>	<b>\$121</b>	<b>\$121</b>	<b>\$121</b>	<b>\$121</b>
Operating Expenses and Equipment						
5301 - General Expense	0	2	2	2	2	2
5302 - Printing	0	1	1	1	1	1
5304 - Communications	0	2	2	2	2	2
5320 - Travel: In-State	0	4	4	4	4	4
5322 - Training	0	1	1	1	1	1
5324 - Facilities Operation	0	10	10	10	10	10
5346 - Information Technology	0	4	3	3	3	3
<b>Total Operating Expenses and Equipment</b>	<b>\$0</b>	<b>\$24</b>	<b>\$23</b>	<b>\$23</b>	<b>\$23</b>	<b>\$23</b>
<b>Total Budget Request</b>	<b>\$0</b>	<b>\$145</b>	<b>\$144</b>	<b>\$144</b>	<b>\$144</b>	<b>\$144</b>

### Fund Summary

Fund Source - State Operations						
3237 - Cost of Implementation Account, Air	0	145	144	144	144	144
<b>Total State Operations Expenditures</b>	<b>\$0</b>	<b>\$145</b>	<b>\$144</b>	<b>\$144</b>	<b>\$144</b>	<b>\$144</b>
<b>Total All Funds</b>	<b>\$0</b>	<b>\$145</b>	<b>\$144</b>	<b>\$144</b>	<b>\$144</b>	<b>\$144</b>

### Program Summary

Program Funding						
3510 - Climate Change	0	145	144	144	144	144
<b>Total All Programs</b>	<b>\$0</b>	<b>\$145</b>	<b>\$144</b>	<b>\$144</b>	<b>\$144</b>	<b>\$144</b>